

## ABSTRACT OF THE DISCLOSURE

A mixer has a first transistor and a second transistor which constitute a balanced oscillation circuit with their  
5 respective emitters connected with each other; a third transistor whose emitter is connected with the emitter of the first transistor; and a fourth transistor whose emitter is connected with the emitter of the second transistor. A first signal is inputted between a base of the third transistor and a base of  
10 the fourth transistor in a balanced way; and the third transistor and the fourth transistor mix an oscillation signal with the first signal and a second signal is outputted from the third transistor and the fourth transistor in a balanced way.